

CLAIMS

1 1. A high-speed wireless data packet network, comprising:
2 an application server for transmitting data to a
3 mobile terminal; and
4 a gateway device providing an interface between the
5 application server and network elements of the high speed
6 wireless data packet network wherein a GGSN is formed to
7 pass network performance parameters to the application
8 server while a data session is being established to enable
9 the application server to determine an appropriate QoS
10 level of data transfer.

1 2. The high speed wireless data packet network of claim 1
2 wherein the network performance parameters include QoS ratings.

1 3. The high speed wireless data packet network of claim 1
2 wherein the network performance parameters include an indication
3 of transfer delays being experienced in the network.

1 4. The high speed wireless data packet network of claim 1
2 wherein the network performance parameters include an indication
3 of signal data unit error rates being experienced in the
4 network.

1 5. The high speed wireless data packet network of claim 1
2 wherein the network performance parameters include an indication
3 of bit error ratios being experienced in the network.

1 6. The high speed wireless data packet network of claim 1
2 wherein the network performance parameters include an indication
3 of the amount of jitter being experienced in the network.

1 7. The high speed wireless data packet network of claim 1
2 wherein the network performance parameters include an indication
3 of traffic congestion being experienced in the network.

1 8. The high speed wireless data packet network of claim 1
2 wherein the network performance parameters include an indication
3 of signal latency being experienced in the network.

1 9. The high speed wireless data packet network of claim 1
2 wherein a RADIUS protocol is used between the GGSN and the
3 application server.

1 10. The wireless data network of claim 9 wherein the
2 network performance indications are appended on defined RADIUS
3 protocol message extensions.

1 11. The wireless data network of claim 10 wherein the
2 defined RADIUS protocol message extensions are vendor specific.

1 12. A gateway GPRS support node (GGSN), comprising:
2 a processor;
3 a memory coupled to communicate with the processor,
4 the memory comprising computer instructions that define
5 logic to prompt the GGSN to transmit network performance
6 indicators to at least one external application server
7 during session setup procedures.

1 13. The GGSN of claim 12 wherein the computer instructions
2 define logic to prompt the GGSN to generate QoS information to
3 the external application server.

1 14. The GGSN of claim 12 wherein the computer instructions
2 define logic to prompt the GGSN to transmit the network
3 performance indicators utilizing a RADIUS protocol wherein the
4 network performance indicators are appended to known RADIUS
5 signals.

1 15. A method of transmitting data in a high speed wireless
2 data packet network, comprising:
3 determining network performance characteristics; and
4 transmitting a network performance indicator to an external
5 application server while a data session is being set up.

1 16. The method of claim 15 further including the step of
2 transmitting network performance indicators only to a select
3 group of application servers.

1 17. The method of claim 15 further including sending the
2 performance indicator periodically if the server is one of a
3 gaming application type server, a multimedia application type
4 server, a streaming media type server, an interactive
5 application type server or a real-time type data server.

1 18. The method of claim 15 wherein the network performance
2 indicator is a required QoS rating.

1 19. The method of claim 18 wherein the required QoS rating
2 is increased or decreased according to whether a terminal
3 receiving the data from the application server desired to
4 increase or decrease signal quality.

1 20. The method of claim 18 wherein the network performance
2 indicator is transmitted to enable the application server to
3 evaluate the required QoS to a QoS specified in a service level
4 agreement as a part of determining what QoS should be provided.